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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,432	02/26/2004	Harry Schilling	5858-01900 SR 2000/20 US	4755
35617 7590 09/05/2007 DAFFER MCDANIEL LLP P.O. BOX 684908 AUSTIN, TX 78768			EXAMINER CORRIELUS, JEAN B	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 09/05/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/787,432

**Applicant(s)**

SCHILLING ET AL.

**Examiner**

Jean B. Corrielus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/26/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The objection to the abstract has been withdrawn.
2. The information disclosure statement filed 7/26/07 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. In addition, an English version of the document needs to be provided. It has been placed in the application file, but the information referred to therein has been partially considered as indicated in the attached signed copy of the form PTO-1449.

In addition, a copy of each of the following documents CY7c9689A and DE 197 58 256.7, recited in the specification page 2, lines 22-25, (in English) need to be provided.

### ***Drawings***

3. The drawings were received on 7/26/07. These drawings are not acceptable. See the following paragraph for more details.
4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the signaling line between the data transmitter and the data receiver, as recited in claim 2, (the proposed drawing changes only shows a signal line between the sig.16 and comb. 12); in

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addition, the signaling means, as recited in claim 3 for requesting first signals from the data transmitter by the data receiver (amended fig. 1, does not sig. 16, as part of data receiver 5), the control unit of the data receiver, as recited in claim 10, (amended fig. 1 only shows a control circuit of the second unit) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

5. Claims 1, 3, 5, 12 and 13 are objected to because of the following informalities: claim 2, line 4 recites "and/or random values" suggests that pseudorandom values and

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random values are transmitted to the receiver while in fact only the random values or the pseudo random values are communicated to the receiver. Similar comment applies to similar recitation in claim 3.

Claim 5, "can take" should be replaced by "takes".

Claim 12, line 5, "by" should be deleted. In addition claim 12 recites a method having only a single step. The claim should recite a series of steps.

Claim 13, line 3, after "are", "coupled/connected".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10, line 8, "the combination" is vague and indefinite because it is not clear as to what combination such limitation refers to.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-2, 4-9, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jewett US Patent No. 5,793,318 in view of Okada US Patent No. 5,740,531.

As per claim 1, Jewett teaches a data communication system and method fig. 3 comprising a first unit 65 and a second unit 66, wherein the first unit 65 is configured to transmit digital signals to the second unit 66, the first unit 65 comprising: an ADC converter (data transmitter) for emitting the digital signals 54 (see col. 4, line 9; col. 5, line 17 and col. 6, lines 35); a pseudo random-generator 44 for generating pseudo random values 46, respectively, and a combining unit 48 for combining the signals emitted by the data transmitter 52 with the pseudo random values 46; and the second unit 14 comprising: inherently a data receiver connected to the data transmitter 65 by a transmission path see fig. 3 for receiving the digital signals. However, Jewett does not teach a control unit for controlling the combining unit in such manner that pseudo random data are transmitted at times other than the first time intervals. Okada teaches the further limitation of control unit encompassed by circuit blocks 43 and 46 for controlling the combining unit 18 in such manner that pseudo random data are transmitted at times other than the first time intervals see col. 5, lines 13-32. Given that fact, it would have been obvious to one skill in the art to modify Jewett by providing control unit for controlling the combining unit in such manner that pseudo random data are transmitted at times other than the first time intervals in order to allow an accurate measurement of communication channel quality during communication as taught by Okada see col. 1, lines 50-51.

As per claim 2, as applied to claim 1 above, Jewett and Okada teach every feature of the claimed invention but do not explicitly teach a signaling line is provided between the data transmitter and the data receiver to signal the presence of data to the receiver. However, it is well known in the art to notify a receiving entity that signal is being transmitted using a control signal line. Given that fact, it would have been obvious to one skill in the art to incorporate a control line in Jewett and Okada to transmit a control signal from a transmitting unit to a receiving unit to indicate that the data is being transmitted to the receiving unit in so as to provide the receiving unit with the proper timing as to when to commence signal processing in order to retrieve original signal.

As per claim 4, Jewett further teaches the combining unit 48 is adapted to continuously combine the first signals with values of the PRNG1 44 and a second combining unit 60 is provided in the second unit 66 for also combining received signals with pseudo random values see fig. 3.

As per claim 5, an additional transmission path 34 is provided to transmit the pseudo random values synchronously with a combining with the pseudo random values at the first unit.

As per claim 6, a pseudo random generator similar to the 62 is included in second unit 66 for generating PN sequences similar as the first unit 65.

As per claim 7, Jewett further teaches an additional transmission path for synchronizing PN generator 44 and PN generator 62 see fig. 3.

As per claim 8, Jewett teaches a unit 42 to synchronize both PN generators of the first and second units see fig. 3.

As per claim 9, see claim 8. The combined references do not teach a sync sequence is used at the beginning of each signal transmission instead of the pn-sequence. Note however that it is well known that prior to transmitting data from one station to another station, signal synchronization is first established between the stations communicating. Given that fact, it would have been obvious to one skill in the art to send a sync sequence prior to signal transmission so as to synchronize the pseudo random generators so as to allow both units to be able to communicate, allow the receiver to be able to decode the signal transmitted by the transmitter.

As per claim 12, see claim 1 above, Okano further teaches wherein true or pseudo random data are inserted between information data, so that in a spectrum of a signal to be transmitted, gaps between spectral lines are substantially reduced, so that amplitudes of the spectral lines fall off, however without an entire bandwidth needed for transmission being substantially increased see fig. 5 and col. 5, lines 13-32. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Jewett and the reasons to do so would have been the same as provide with respect to claim 1.

As per claim 13, see claim 1.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jewett in view Okada US Patent No. 5,592,555 and further in view of Szymanski US Patent publication No. US 2002/0053062A1.



As per claim 3, as applied to claim 1 above, Jewett and Okada teaches every feature of the claimed invention but do not explicitly teach the data receiver has a signaling means for requesting information data from the data transmitter and the data transmitter is adapted to send information data in response to this signal. Szymanski teaches a data receiver has a signaling means for requesting information data from the data transmitter and the data transmitter is adapted to send information data in response to this signal see paragraphs 35 and 36. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Jewett and Okada in order to provide the system with the capability to minimize signal transmission error through retransmission.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jewett US Patent No. 5,793,318 in view of Okada US Patent No. 5,592,555 and further in view of Ooi et al US patent No. 5,007,088.

As applied to claim 10 above, Jewett and Okada disclose every feature of the claimed invention but do not explicitly teach the additional limitations wherein for the synchronization sequence, the data transmitter is adapted to emit a previously established bit pattern which is then combined with pseudo random values of the pseudo random generator of the first unit by the combining unit connected on an output side of the pseudo random generator; and a control unit of the data receiver is adapted to perform at various times a synchronization of the pseudo random generator of the second unit with the received data until a known given transmission pattern occurs as a

result of the combination. Ooi et al teaches limitations wherein for the synchronization sequence, the data transmitter fig. 1 is adapted to emit a previously established bit pattern (unique word, see output of circuit 5) which is then combined with pseudo random values of the pseudo random generator 9 using gate 10 of the first unit fig. 1 by the combining unit 10 connected on an output side of the pseudo random generator 9; and a control unit 22 of the data receiver is adapted to perform at various times a synchronization of the pseudo random generator 25 of the second unit fig. 3 with the received data until a known given transmission pattern (unique word) occurs as a result of the combination. It would have been obvious to one skill in the art to incorporate such a teaching in Jewett and Okada in order to allow valid scrambling/descrambling of data to occur immediately following the establishment of frame synchronization to prevent a substantial amount of data loss as taught by Ooi see col. 1, lines 34-38.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jewett US Patent No. 5,793,318 in view of Okada US Patent No. 5,592,555 and further in view of Ooi et al US patent No. 5,007,088 and further in view of Van der Gracht et al US patent No. 4,835,517.

As applied to claim 10 above Jewett and Okada and Ooi teach the invention as claimed but do not teach the limitations of "wherein for simplified synchronization between the data transmitter and the data receiver, a short pseudo random sequence is used at first, and after a given period of time, or after a synchronization with this random sequence, a switch-over is made to a longer pseudo random sequence". However, as evidence by Van Der Gracht et al, it is well know in the art to use a first short code

sequence and a second long code sequence see col. 1, lines 62-66. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in Jewett and Okada, and Ooi in order to acquire and maintain code synchronization between the receiver and transmitter so as to reduce error rate.

***Response to Arguments***

13. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***


14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jean B Corrielus  
Primary Examiner  
Art Unit 2611

8-20-07